

**D.W. KOZERA, INC.**  
PROFESSIONAL ENGINEERS & GEOLOGISTS

September 23, 2015

Vienna Development Associates, LLC  
c/o Hekemian & Co., Inc.  
505 Main Street  
Annapolis, MD 21403

Attn: Mr. Christopher P. Bell, Senior Vice President  
(cbell@hekemian.com)

**Subject:** 444 Maple Avenue West, Vienna, Virginia (DWK Contract Number 14107.D)

Dear Mr. Bell:

As this project undergoes redesign, there is a possibility of raising the lower floor grade from EL 363 to EL 373. For the possibility of this scenario, we have analyzed the use of conventional spread footings founded at EL 370. Using the values obtained from five (5) dilatometers previously performed on this site, the following is the range of total settlements for three (3) expected column loadings founded on conventional spread footings designed for an allowable soil bearing pressure of 4 ksf.

Column Load	Footing Size (sq.)	Range of Settlements
800 kips	16'-4"	0.40-0.80 inches
1,000 kips	18'-3"	0.45-0.90 inches
1,200 kips	20'-0"	0.50-1.0 inches

Although this analysis is for an individual footing, and does not consider the effects of adjacent foundations, it appears that the use of conventional spread footings designed at 4 ksf allowable bearing pressure at EL 370 is a suitable foundation solution.

*I hereby certify that this document was prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the Commonwealth of Virginia.*

Very truly yours,  
D.W. KOZERA, INC.

David W. Kozera, P.E.  
Commonwealth of Virginia No. 011857  
Expiration: 06-30-2017

ec: TCE & Associates, Inc.  
Attn: Mr. Sanjay Khanna, P.E.  
(skhanna@tadjerco.com)